

REMARKS

The Office Action dated December 29, 2003 has been carefully reviewed and the foregoing remarks are made in response thereto. In view of the above claim amendments and following remarks, Applicants respectfully request reconsideration and reexamination of this application and timely allowance of the pending claims.

By this Amendment, claims 12 to 13 and 20 have been canceled and claims 10, 11, 18, 19, 26, 28 and 29 have been amended. Applicants respectfully submit that no new prohibited matter has been introduced by the amendments to the claims.

Summary of the Office Action

1. Claims 10, 18, 28 and 29 were rejected under 35 U.S.C. 112 (second paragraph) as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.
2. Claims 10 to 27 were rejected under 35 U.S.C. 112 (first paragraph) as failing to comply with the written description requirement.
3. Claim 10 was rejected under 35 U.S.C. 112 (first paragraph) because the specification does not reasonably provide enablement for anti-freeze proteins having as little as 90 percent overlap with SEQ ID NO: 1 which retain ice recrystallization properties.

Rejection based on 35 U.S.C. 112 (second paragraph)

Claims 10, 18, 28 and 29 were rejected under 35 U.S.C. 112 (second paragraph) for purportedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Without acquiescing to the merits of the rejection, Applicants have removed the term "apparent" from the rejected claims in order to further prosecution of the present application. In view of the amendment, Applicants request withdrawal of the rejection.

Rejections based on 35 U.S.C. 112 (first paragraph)

Claims 10 to 27 were rejected under 35 U.S.C. 112 (first paragraph) for purportedly failing to comply with the written description requirement. Applicants appreciate that Examiner's comments in several telephone discussions relating to alternative claim language. In light of these comments and without acquiescing to the merits of the rejection, Applicants have amended the claims to provide for an

antifreeze protein with up to two conservative amino acid substitution in the N-terminal sequence. Written support in the specification for this amendment can be found on page 4, lines 2 to 4 where it is disclosed that the claimed proteins can differ by one or two amino acids from the disclosed sequence. In this regard, Applicants have amended claims 11 and 19 to provide for one conservative amino acid substitution. Further support for two amino acid substitutions can be found on page 4, lines 22 to 23 where an alignment of SEQ ID NO: 1 and 2 is disclosed which demonstrates differences at two separate positions. Applicants thus submit that the specification provides adequate written support for the amended claims. In view of this amendment and the above remarks, Applicants respectfully request withdrawal of the rejection of claims 10 to 27.

Claim 10 was rejected under 35 U.S.C. 112 (first paragraph) because the specification purportedly does not reasonably provide enablement for anti-freeze proteins having as little as 90 percent overlap with SEQ ID NO: 1 which retain ice recrystallization properties. Without acquiescing to the merits of the rejection, Applicants have amended claim 10 such that the the claimed anti-freeze protein may contain up to two conservative amino acid substitutions in the N-terminous. Applicants submit that the specification provides reasonable enablement for amended claim 10 such that the skilled artisan could readily produce the claimed invention because the skilled artisan, in view of the specification, could readily ascertain the type of conservative amino acid substitutions in the disclosed N-terminal sequences which would not effect that activity of the claimed antifreeze protein.

Conclusion

The foregoing remarks are being made to place the application in condition for allowance. Applicants respectfully request reconsideration and timely allowance of the pending claims. A favorable action is awaited. Should the Examiner find that an interview would be helpful to further prosecution of this application, he is invited to telephone the undersigned at his convenience. If there are any fees due in connection with the filing of this amendment, please charge the fees to our Deposit Account No. 50-310. If a fee is required for an extension of time under 37 C.F.R. 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Except for issue fees payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or

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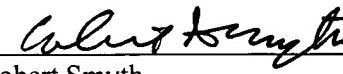
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credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. 1.136(a)(3).

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Respectfully submitted
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